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| APPLICATION NO.                        | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/830,478                             | 06/29/2001  | Christian Speth      | P/3781-4            | 8170             |
| 24998                                  | 7590        | 06/02/2004           | EXAMINER            |                  |
| DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP |             |                      | LANGEL, WAYNE A     |                  |
| 2101 L STREET NW                       |             |                      | ART UNIT            | PAPER NUMBER     |
| WASHINGTON, DC 20037-1526              |             |                      | 1754                |                  |

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES DEPARTMENT OF COMMERCE  
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| SERIAL NUMBER | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|---------------|-------------|----------------------|---------------------|
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09830478

EXAMINER

ART UNIT

PAPER NUMBER

DATE MAILED:

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

☐ This application has been examined ☒ Responsive to communication filed on 4-14-04 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited by Examiner, PTO-892.        | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.             | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____   |

Part II SUMMARY OF ACTION

1. ☒ Claims 1-5 and 7-11 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2. ☐ Claims \_\_\_\_\_ have been cancelled.

3. ☐ Claims \_\_\_\_\_ are allowed.

4. ☒ Claims 1-5 and 7-11 are rejected.

5. ☐ Claims \_\_\_\_\_ are objected to.

6. ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☐ The proposed drawing correction, filed \_\_\_\_\_, has been ☐ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other

EXAMINER'S ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,7,8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al in view of Lee'891, for the reasons given in the Office Action mailed February 10, 2004. Applicant's argument, that Murayama et al does not teach or suggest an ammonia preparation process that includes circulating a cooling agent within cooling tubes concentrically surrounding respective catalyst tubes, is not convincing. Murayama et al disclose at col. 4, lines 53-55 that the cooling medium is introduced through a tube 19 to the inside of the shell 10 of the reactor. It is clear from Fig. 1 of Murayama et al that the cooling medium would surround reaction tubes 6, since the cooling medium is present in the space between tubes 6 and gas collecting tube 15. The area in shell 10 surrounding catalyst tubes 6 would be tantamount to "tubes". In any event, it would be obvious to surround reaction tubes 6 of Murayama et al with cooling tubes, since one of ordinary skill in the art recognize that the essential teaching of Murayama et al is that the cooling medium surround reaction tubes 6, and that this could be accomplished in any known or conventional manner, such as by surrounding the reaction tubes with cooling tubes.

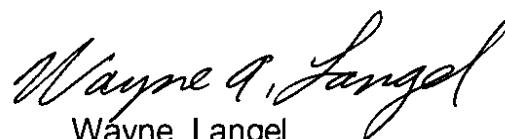
Claims 2, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al in view of Lee '891 as applied to claim 1 above, and further in view

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of Lee '582. Lee '582 is relied upon as discussed in the Office Action mailed February 10, 2004.

Claims 3, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al in view of Lee '891 as applied to claim 1 above, and further in view of either Pinto or Porter. Pinto and Porter are relied upon as discussed in the Office Action mailed February 10, 2004.

Any inquiry concerning this communication should be directed to Wayne Langel at telephone number 571-272-1353.

A handwritten signature in black ink that reads "Wayne A. Langel". The signature is written in a cursive, flowing style with a large, prominent 'W' and 'L'.

Wayne Langel  
Primary Examiner  
Art Unit 1754